

REMARKS

The Examiner, Ms. Moore, is thanked for the courtesy extended applicants attorney during the interview of October 14, 2005, during which proposed amendments were discussed. It is noted that although no agreement was reached regarding the claims, by the present amendment, the claims have been amended in a manner somewhat different from that discussed at the interview.

Request for Interview

Although applicants have previously conducted an interview with the Examiner, applicants request that the Examiner contact the undersigned attorney to schedule an interview upon taking this application up to action so as to clarify any outstanding issues which remain.

By the present amendment, independent claims 1 and 10 and therewith the dependent claims, have been amended to clarify features of the present invention. More particularly, in accordance with the present invention, as illustrated in Figures 1 and 2 of the drawings, for example and as now recited in claim 1, the vacuum processing apparatus comprises two processing chambers 103 and 104 disposed adjacent one another, wherein each processing chamber has a processing table for supporting the object to be processed and carrying out processing using a gas. Applicants note that Fig. 5 illustrates a cross sectional view of a processing chamber wherein 504 is a wafer holder or table on which a wafer is disposed or processing in the chamber. As recited in claim 1, a transfer unit 105, as more clearly illustrated in Fig. 2(a), is coupled to the two adjacent processing chambers, which transfers the object to be processed at least one of to and from at least one of the two adjacent processing chambers 103, 104, for example. Additionally, as shown in Fig. 2(a) a

mass flow controlling unit 107 is disposed between the two adjacent processing chambers 103, 104 for directly supplying gas to each of the two adjacent processing chambers for enabling processing of the object to be processed when supported on the processing table of the processing chamber. As described at pages 20 and 21 of the specification, the processing chamber 103 represents an etching unit and the processing chamber 104 represents an ashing unit with the mass flow control unit 107 being disposed therebetween, and the control unit 107 controls the supply of necessary gases to the processing units located adjacent thereto. For example, a flow controller disposed inside the control unit 107 controls the flow of gas or supply of power to the processing chamber disposed inside the processing unit 103a of the etching unit 103. More particularly, as described in the paragraph bridging pages 20 and 21 of the specification, plural flow controllers are disposed within the control unit 107 for controlling amount and rate of flow of processing gases to be supplied to the etching unit 103 and the ashing unit 104, and the gas or refrigerant used for controlling the temperature of the wafer or wafer holder within the chamber, especially, the flow controller for the etching unit is disposed on the upper area and the flow controller for the ashing unit is disposed on the lower area within the control unit 107. Moreover, as described in the paragraph bridging pages 21 and 22 of the specification, independent control for each processing unit must preferably be implemented so as to realize the best process conditions and operation conditions of the apparatus in response to the various processing units having different specifications of processes such as different gases and different temperatures. As described in the first paragraph of page 22 of the specification, the control unit 107 is disposed between the two processing units and is formed, so that it can be easily

connected to the processing units, with the attaching and detaching of processing units or control units of the apparatus being facilitated.

Applicants note that by the present amendment, in addition to amending independent claims 1 and 10 to recite the aforementioned features, the dependent claims have been amended to recite further features with dependent claims 21 and 22 being canceled and new dependent claims 23 and 24 dependent upon claims 7 and 8 being presented which claims recite features as set forth in claim 9 of this application. Applicants submit that the recited features are not disclosed or taught in the cited art, as will become clear from the following discussion.

The rejection of claims 1 and 7 under 35 USC 102(b) as being anticipated by US Patent No. 6,286,230 to White et al; the rejection of claim 8 under 35 USC 103(a) as being unpatentable over White et al; the rejection of claim 9 under 35 USC 103(a) as being unpatentable over White et al further in view of US Patent No. 6,558,506 to Freeman et al; and the rejection of claims 10 - 22 under 35 USC 103(a) as being unpatentable over US Patent No. 6,286,230 to White et al in view of US Patent No. 6,558,506 to Freeman et al and by Japanese Patent No. 08-127861A to Naito et al; such rejections are traversed insofar as they are applicable to the present claims and reconsideration and withdrawal of the rejections are respectfully requested.

As to the requirements to support a rejection under 35 USC 102, reference is made to the decision of In re Robertson, 49 USPQ 2d 1949 (Fed. Cir. 1999), wherein the court pointed out that anticipation under 35 U.S.C. §102 requires that each and every element as set forth in the claim is found, either expressly or inherently described in a single prior art reference. As noted by the court, if the prior art reference does not expressly set forth a particular element of the claim, that reference still may anticipate if the element is "inherent" in its disclosure. To

establish inherency, the extrinsic evidence "must make clear that the missing descriptive matter is necessarily present in the thing described in the reference, and that it would be so recognized by persons of ordinary skill." Moreover, the court pointed out that inherency, however, may not be established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient.

With regard to the requirements to support a rejection under 35 USC 103, reference is made to the decision of In re Fine, 5 USPQ 2d 1596 (Fed. Cir. 1988), wherein the court pointed out that the PTO has the burden under '103 to establish a prima facie case of obviousness and can satisfy this burden only by showing some objective teaching in the prior art or that knowledge generally available to one of ordinary skill in the art would lead that individual to combine the relevant teachings of the references. As noted by the court, whether a particular combination might be "obvious to try" is not a legitimate test of patentability and obviousness cannot be established by combining the teachings of the prior art to produce the claimed invention, absent some teaching or suggestion supporting the combination. As further noted by the court, one cannot use hindsight reconstruction to pick and choose among isolated disclosures in the prior art to deprecate the claimed invention.

Furthermore, such requirements have been clarified in the decision of In re Lee, 61 USPQ 2d 1430 (Fed. Cir. 2002) wherein the court in reversing an obviousness rejection indicated that deficiencies of the cited references cannot be remedied with conclusions about what is "basic knowledge" or "common knowledge".

The court pointed out:

The Examiner's conclusory statements that "the demonstration mode is just a programmable feature

which can be used in many different device[s] for providing automatic introduction by adding the proper programming software" and that "another motivation would be that the automatic demonstration mode is user friendly and it functions as a tutorial" do not adequately address the issue of motivation to combine. This factual question of motivation is immaterial to patentability, and could not be resolved on subjected belief and unknown authority. It is improper, in determining whether a person of ordinary skill would have been led to this combination of references, simply to "[use] that which the inventor taught against its teacher."... Thus, the Board must not only assure that the requisite findings are made, based on evidence of record, but must also explain the reasoning by which the findings are deemed to support the agency's conclusion. (emphasis added)

Turning first to White et al, the Examiner contends that White et al in Figure 9 discloses a transfer unit (22) plural processing chambers (10A and 10B) and a mass flow controller (69) interposed between two of the plural processing chambers for supplying gas to the two of the plural processing chambers. Applicants submit that White et al describes reference numeral 69 as being an adjustable orifice through which the rate of gas flow from the supply 38 into the buffer region 22 can be set. Irrespective of the interpretation of the orifice as a "mass flow controlling unit" as now recited in claim 1 or "plural controllers" as recited in claim 10, both claims 1 and 10 recite the feature that the controlling unit or controllers "directly" supply gas to each of the two adjacent processing chambers for enabling processing of the object to be processed when supported on the processing table thereof. Thus, in accordance with the present invention, the mass flow controlling unit is disposed between the two adjacent plural processing chambers 103 and 104, as illustrated in Fig. 2(a), for example, and directly supplies gas to each of the two adjacent processing chambers for enabling processing of the wafer when supported on the processing table thereof. In contradistinction, irrespective of the position set forth by the Examiner, White et al describes the gas supply 38 as supplying gas to the buffer region 22 via flow path 66

via the "transfer purge flow valve 68, which controls whether gas flows from the supply 38 to the buffer region 22. As described in column 8, lines 8 - 19 of White et al, when the isolation valves 30, 32 between the process chambers 10A, 10B are sealed, such as in Fig. 8, gas is provided from the supply 38 to the buffer region 22 by opening the transfer purge flow valve 68, and the transfer vacuum valve 88 also is opened, so as to permit flow of the gas through the vacuum line 78. As such, it is apparent, assuming arguendo, that the buffer region 22 of White et al may be considered a transfer unit, White et al does not disclose or teach a mass flow controlling unit, located in the manner defined, and directly supplying gas to each processing unit for enabling processing of the object to be processed when supported on the processing table, as recited in the claims of this application. Thus, applicants submit that claim 1, as amended, patentably distinguishes over White et al in the sense of 35 USC 102 and 35 USC 103 and should be considered allowable thereover.

With respect to dependent claim 7, this claim has been amended to recite the feature that the mass flow controlling unit is disposed between the two adjacent processing chambers without being fluidly connected to the transfer unit. Assuming, arguendo, that the buffer unit 22 of White et al represents a transfer unit, and the orifice 69 represents a mass flow controlling unit, although applicants submit that such is not the case, it is readily apparent that the recited structural features of claim 7 are not disclosed or taught by White et al. Thus, applicants submit that claims 1 and 7 patentably distinguish over White et al in the sense of 35 USC 102 and 35 USC 103 and should be considered allowable thereover.

With respect to claim 8, it is readily apparent that White et al does not disclose that the mass flow controlling unit includes first and second mass flow controlling

devices which respectively supply gas to respective ones of the two adjacent processing chambers in the manner set forth, and which are disposed in a vertical direction with respect to one another. Applicants submit that as described in the specification of this application, such features promote a compact and usable device which is not disclosed or taught by White et al, and the recited features cannot be ignored. Thus, applicants submit that claim 8 patentably distinguishes over White et al in the sense of 35 USC 103.

With respect to claim 9 and the combination of Freeman et al with White et al, the Examiner recognizes that White et al fails to teach the two adjacent processing chambers are detachably connected to the transfer unit, and cites Freeman et al for the disclosure of detachable processing chambers. Irrespective of the disclosure of Freeman et al, applicants submit that Freeman et al does not overcome the deficiencies pointed out above with respect to White et al in relation to the claimed features of claims 1, 7 and 8, noting that new dependent claims 23 and 24 correspond to the features of claim 9 and depend from claims 7 and 8 respectively. Thus, applicants submit that all claims patentably distinguish over the cited art in the sense of 35 USC 103 and should be considered allowable thereover.

As to the rejection of claims 10 - 22 based upon the combination of White et al, Freeman et al and Japanese Patent No. 08-127861A to Naito et al, it is noted that claim 10 recites the feature of plural controllers which control the supply of the processing gas directly into each of the two adjacent vacuum processing chambers so as to enable processing of the wafer disposed therein, the plural controllers being disposed between the two adjacent processing chambers. The Examiner recognizes that White et al does not disclose plural controllers and, in fact, as pointed out above, does not disclose a single controller which controls the supply of the processing gas

directly into a vacuum processing chamber, and applicants submit that the Examiner cannot disregard to the recited features in the manner as suggested by the Examiner. Contrary to the position set forth by the Examiner, "obvious to try" is not the standard of 35 USC 103 and there is no disclosure or teaching of providing plural controllers in the art cited by the Examiner. See, In re Fine, supra. Thus, applicants submit that claim 10 and the dependent claims patentably distinguish over the cited art and should be considered allowable thereover.

It is noted that the claims which depend from claim 10, either directly or indirectly, recite further features of the present invention which are not disclosed or taught by White et al, Freeman or Nailito et al. More particularly, while the Examiner contends that it would have been obvious to one of ordinary skill in the art at the time the applicants' invention was made to have provided plasma generation means and a plasma processing gas in White et al, in order to decompose away reaction by-products as taught by Nailito et al, applicants are unaware of what such combination provides in relation to the claimed invention. As to the structural arrangement, such as the polygonal shape of the transfer unit and the arrangement of respective sidewalls of the vacuum processing chambers with respect thereto, it is apparent that White et al taken alone or in combination with Freeman et al and Nailito et al does not provide the recited features of claim 10 and the dependent claims thereof. Accordingly, applicants submit that all claims patentably distinguish over this proposed combination of references in the sense of 35 USC 103 and should be considered allowable thereover.

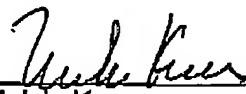
For the foregoing reasons, applicants submit that all claims present in this application should now be in condition for allowance and issuance of an action of a favorable nature is courteously solicited.

Applicants again request the Examiner to contact the undersigned attorney to schedule an interview to resolve any outstanding issues prior to issuance an action in this application.

To the extent necessary, applicants petition for an extension of time under 37 CFR 1.136. Please charge any shortage in the fees due in connection with the filing of this paper, including extension of time fees, to the deposit account of Antonelli, Terry, Stout & Kraus, LLP, Deposit Account No. 01-2135 (Case: 648.43120X00), and please credit any excess fees to such deposit account.

Respectfully submitted,

ANTONELLI, TERRY, STOUT & KRAUS, LLP



Melvin Kraus
Registration No. 22,466

MK/jla
(703) 312-6600